

## **Abstract**

The present invention is directed to a method for positioning and tracing of a guiding channel during surgery, employing an imaging system. The method includes acquiring an image of a portion of a human body where surgery is to take place and fastening a surgical tool to a moving arm in at least two reference locations of the surgical tool. The surgical tool is moved, outside of the human body and near the portion where surgery is to take place. The coordinates of the two reference locations of the surgical tool are estimated in response to the movement of the surgical tool. The trajectory of the surgical device is then calculated for a distance extending from the surgical device to inside the human body. An image of the trajectory is superimposed on the acquired image, so as to allow visualization of a path extending from the surgical tool to inside the human body. The superimposed image is then displayed for visualization by the surgeon.